

U.S. Patent Application Serial No. 10/541,746
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 19 and 37, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): An ocular lens material comprising at least one kind of a compound (A) having an ethylenically unsaturated group and polydimethylsiloxane structure through a urethane bond and at least one kind of a pyrrolidone derivative (B) selected from the group consisting of 1-alkyl-3-methylene-2-pyrrolidone, 1-alkyl-5-methylene-2-pyrrolidone, and 5-alkyl-3-methylene-2-pyrrolidone,

wherein an oxygen permeability coefficient (Dk) of the ocular lens material is not less than $51 (\times 10^{-11} \text{ (cm}^2/\text{sec)})$, and

wherein a water content of the ocular lens material is 32% to 55% by weight.

Claim 2 (Previously presented): An ocular lens material according to Claim 1, comprising 5 to 60 % by weight of the pyrrolidone derivatives.

Claim 3 (Canceled).

U.S. Patent Application Serial No. **10/541,746**
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

Claim 4 (Previously presented): An ocular lens material according to Claim 1, wherein the pyrrolidone derivative (B) is 1-methyl-3-methylene-2-pyrrolidone.

Claim 5 (Canceled).

Claim 6 (Previously presented): An ocular lens material according to Claim 1, wherein the pyrrolidone derivative (B) is 1-methyl-5-methylene-2-pyrrolidone.

Claim 7 (Canceled).

Claim 8 (Previously presented): An ocular lens material according to Claim 1, wherein the pyrrolidone derivative (B) is 5-methyl-3-methylene-2-pyrrolidone.

Claim 9 (Original): An ocular lens material according to Claim 1, wherein the repeating number of siloxane of the polydimethylsiloxane structure in a compound (A) having ethylenically unsaturated groups and polydimethylsiloxane structure through a urethane bond is 10 to 100.

Claim 10 (Previously presented): An ocular lens material according to Claim 1, wherein tensile modulus is 0.2 to 0.8 MPa and stress relaxation under loading a fixed load for 30 seconds is 8 to 15 %.

U.S. Patent Application Serial No. **10/541,746**
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

Claim 11 (Previously presented): An ocular lens material according to Claim 1, wherein water content is 10 to 60 % by weight.

Claim 12 (Previously presented): An ocular lens material according to Claim 1, wherein water content is 32 to 55 % by weight.

Claim 13 (Original): An ocular lens material according to Claim 1, wherein (C) a silicone compound other than the compound (A) having ethylenically unsaturated groups and polydimethylsiloxane structure through a urethane bond is contained.

Claim 14 (Original): An ocular lens material according to Claim 13, wherein the silicone compound (C) is tris(trimethylsiloxy)silylpropyl (meth)acrylate.

Claim 15 (Previously presented): An ocular lens material according to Claim 1 or 13, wherein a N-substituted acrylamide (D) is further comprised.

Claim 16 (Original): An ocular lens material according to Claim 15, wherein the N-substituted acrylamide (D) is at least one of N-substituted acrylamides selected from the group consisting of N,N-dimethyl acrylamide, N,N-diethyl acrylamide, acryloyl morpholine, N-isopropyl acrylamide and N-(2-hydroxyethyl) acrylamide.

Claim 17 (Previously presented): An ocular lens material according to Claim 1 or 13, wherein at least one of a crosslinking agent is further comprised.

Claim 18 (Previously presented): A lens for the eyes comprising the ocular lens material according to Claim 1.

Claim 19 (Currently amended): A method for preparing an ocular lens material, comprising

- a) a step of obtaining a mixed solution comprising at least one kind of a compound (A) having ethylenically unsaturated groups and polydimethylsiloxane structures through a urethane bond and a hydrophilic monomer (B) comprising at least one kind of a pyrrolidone derivative selected from the group consisting of 1-alkyl-3-methylene-2-pyrrolidone, 1-alkyl-5-methylene-2-pyrrolidone, and 5-alkyl-3-methylene-2-pyrrolidone and a photo polymerization initiator and/or a thermal polymerization initiator,
- b) a step of introducing said mixed solution to a mold,
- c) a step of obtaining an ocular lens material cured by irradiating UV light on and/or heating the mixed solution in said mold,
- d) a step of carrying out surface treatment to said ocular lens material after demolding said ocular lens material to impart hydrophilicity and deposit resistance,
- e) a step of removing an unreacted component from said ocular lens material, and
- f) a step of hydrating said ocular lens material,

U.S. Patent Application Serial No. **10/541,746**
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

wherein an oxygen permeability coefficient (Dk) of the ocular lens material is not less than
 $51 (\times 10^{-11} \text{ (cm}^2\text{/sec)})$, and
wherein a water content of the ocular lens material is 32% to 55% by weight.

Claim 20 (Previously presented): A method for preparing the ocular lens material according to Claim 19, wherein in the step of obtaining a mixed solution, the mixed solution further comprises a silicone compound (C) and an N-substituted acrylamide (D).

Claim 21 (Original): A method for preparing the ocular lens material according to Claim 19 or 20, containing a crosslinking agent in the mixed solution.

Claim 22 (Previously presented): A method for preparing the ocular lens material according to Claim 19 or 20, containing at least one of polymerizable or non polymerizable ultraviolet absorbents and/or at least one of polymerizable or non polymerizable dyes in the mixed solution.

Claim 23 (Previously presented): A method for preparing the ocular lens material according to Claim 19 or 20, comprising 0.1 to 5 % by weight of a water-soluble organic solvent.

Claim 24 (Original): A method for preparing the ocular lens material according to Claim 23, wherein the water-soluble organic solvent is a water-soluble organic solvent selected from alcohols

U.S. Patent Application Serial No. **10/541,746**
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

having 1 to 4 carbons, acetone, methyl ethyl ketone, dimethylformamide, dimethylsulfoxide, acetonitrile and N-methyl-2-pyrrolidone.

Claim 25 (Original): A method for preparing the ocular lens material according to Claim 19, wherein the surface treatment is plasma treatment.

Claim 26 (Original): A method for preparing the ocular lens material according to Claim 25, wherein oxygen or a mixture of oxygen is used in the plasma treatment.

Claim 27 (Original): A method for preparing the ocular lens material according to Claim 26, wherein a mixture of oxygen and water is used in the plasma treatment.

Claim 28 (Original): A method for preparing the ocular lens material according to Claim 26, wherein a mixture of oxygen and tetrafluoromethane is used in the plasma treatment.

Claim 29 (Original): A method for preparing the ocular lens material according to Claim 26, wherein a mixture of oxygen and organic silane is used in the plasma treatment.

Claim 30 (Original): A method for preparing the ocular lens material according to Claim 29, wherein the organic silane is tetramethoxysilane.

U.S. Patent Application Serial No. 10/541,746
Amendment filed June 7, 2010
Reply to OA dated March 8, 2010

Claim 31 (Original): A method for preparing the ocular lens material according to Claim 26, wherein a mixture of oxygen and methane is used in the plasma treatment.

Claim 32 (Original): A method for preparing the ocular lens material according to Claim 26, wherein a mixture of oxygen, nitrogen and methane is used in the plasma treatment.

Claim 33 (Original): A method for preparing the ocular lens material according to Claim 19, wherein the surface treatment is a treatment according to the coating method of a hydrophilic polymer coating.

Claim 34 (Original): A method for preparing the ocular lens material according to Claim 33, wherein the coating method is a plasma polymerization method of a hydrophilic monomer.

Claim 35 (Original): A method for preparing the ocular lens material according to Claim 33, wherein the coating method is a plasma-induced graft polymerization.

Claim 36 (Original): A method for preparing the ocular lens material according to Claim 19, further comprising (g) a step of coloring the ocular lens material by using a vat dye.

Claim 37 (Currently amended): A method for preparing an ocular lens material, comprising

a) a step of obtaining a mixed solution comprising at least one kind of a compound (A) having ethylenically unsaturated groups and polydimethylsiloxane structures through a urethane bond and a hydrophilic monomer (B) comprising at least one kind of a pyrrolidone derivative selected from the group consisting of 1-alkyl-3-methylene-2-pyrrolidone, 1-alkyl-5-methylene-2-pyrrolidone, and 5-alkyl-3-methylene-2-pyrrolidone and a photo polymerization initiator and/or a thermal polymerization initiator,

b) a step of introducing said mixed solution to a mold,

c) a step of obtaining an ocular lens material cured by irradiating UV light on and/or heating the mixed solution in said mold,

d) a step of carrying out surface treatment to said ocular lens material after demolding said ocular lens material to impart hydrophilicity and deposit resistance, and

e) a step of removing an unreacted component from said ocular lens material and a step of hydrating said ocular lens material, at the same time by immersing in distilled water or a saline solution,

wherein an oxygen permeability coefficient (Dk) of the ocular lens material is not less than $51 (\times 10^{-11} \text{ (cm}^2\text{/sec)})$, and

wherein a water content of the ocular lens material is 32% to 55% by weight.